11-5820-398-ESC

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

*TM 11-5820-398-ESC

EQUIPMENT SERVICEABILITY CRITERIA

FOR

RADIO SET AN/PRC-25

Headquarters, Department of the Army, Washington, D.C., 22 May 1969

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*This manual supersedes TM 11-5820-398-ESC, 18 June 1964.

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Section I. INSTRUCTIONS

1. Purpose. This manual furnishes the user with a procedure for evaluating the readiness condition of the equipment to perform satisfactorily its primary mission for 90 days with normal maintenance support. Application of this procedure, however, does not eliminate or reduce the requirement for prescribed maintenance service on the equipment, and does not authorize replacement of components.

2. Definitions. *a. Equipment category* **GREEN.** Equipment free of condition that would limit the reliable performance of its primary mission for a period of 90 days of operation.

b. Equipment category **AMBER.** Operationally ready equipment that possesses a limiting factor(s) which may curtail a reliable performance of its primary mission for a period of 90 days of operation.

c. Equipment category **RED.** Equipment unable to perform its primary mission immediately or possessing an unacceptable reliability for sustained performance (90 days) of its primary mission.

3. General Instructions. *a.* This evaluation will be performed by the operator.

b. This technical manual will be filed with the equipment log.

c. This evaluation will be actually performed on the item(s) being rated.

d. Equipment serviceability criteria items covered in this manual, but not authorized to the evaluating organization, shall be scored as **"GREEN."**

e. Authorized end items not on hand shall be scored as **"RED".**

f. This equipment is rated on the basis of capability for immediate operation and amount of wear life remaining on time change components. The rating is not meaningful unless each check is made with the utmost care and accuracy.

g. Record the evaluation results on DA Form 2404, Equipment Inspection and Maintenance Worksheet, using a separate sheet for each multiple-aspect equipment, subsystem and/or component, including those evaluated by separately published equipment serviceability criteria technical manuals. The blocks will be completed as shown below:

(1) *Block 1.* Insert the organizational designation of the unit performing the evaluation.

(2) *Block 2.* Identify the system as Radio Set AN/PRC–25.

(3) *Block 3.* Insert the registration, serial, or Federal stock number, as appropriate. Do not use more than one number.

(4) *Block 4.* N/A.

(5) *Block 5.* Insert the standard six-digit calendar date that equipment serviceability criteria evaluation is performed (example: 3 Jan 1969 would be 690103).

(6) *Block 6.* Insert the letters "ESC."

(7) *Block 7.* Insert the equipment serviceability criteria technical manual number and its date of issue.

(8) *Column a.* Insert the checkpoint item number.

(9) *Column b.* Place each obtained color rating opposite the item to which it applies. (Insert **"GREEN," "AMBER,"** or **"RED,"** as applicable.)

(10) *Column c.* Briefly describe each test item.

(11) *Color Rating.* Obtain the color rating for each subsystem by taking the lowest color rating given.

(12) *Blocks 8 and 9.* Self-explanatory.

(13) *Block 10.* Insert the subsystem color categorization.

(14) The color category for multiple-aspect equipment will not be rated any higher than the lowest-rated subsystem and/or component. Indicate this classification at the bottom of the basic evalua-

tion sheet thus: SYSTEM EVALUATION. (Insert **GREEN, AMBER,** or **RED.**) The color rating will be kept current by recording changes, as they occur, on DA Form 2404.

(15) Staple all forms applying to the same system together, with those which apply to the basic system on top.

h. Determine and record the appropriate rating for each checkpoint, each subsystem/component, and the system. The color rating for multiple-aspect equipment will be the lowest rating recorded for a subsystem/component.

Note. If an URGENT modification work order has not been applied to any authorized equipment, the equipment and the system will be rated **"RED."**

i. Subsystems and components will be separately color rated.

j. A color rating will be assigned for the overall system.

4. Reporting of Errors. The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-AD, Fort Monmouth, N.J., 07703.

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Section II. EVALUATION PROCEDURE

5. Evaluation Requirements. *a. Operating Conditions.* The following operating conditions are required for the evaluation procedures in paragraph 6.

(1) A monitor FM radio station is located approximately 3 miles away and can operate on assigned frequencies in the low and high bands of the AN/PRC-25 (30.00 through 75.95 MHz).

(2) No steel structure or hill lies between the monitor radio station and the equipment under test.

(3) If the tactical situation permits, two operating frequencies are available for the tests: one in the low frequency band (30 to 52.95 MHz) and one in the high frequency band (53 to 75.95 MHz).

(4) The handset is attached to one of the AUDIO receptacles on the radio set.

(5) The short (3 ft) antenna (AT-892/PRC-25) or the long (10 ft) antenna (AT-271A PRC with the AB 591 PRC-25) is installed on the radio set.

(6) Battery, Dry BA-386 U or BA 4386 U is installed in the radio set. In arctic climates, Battery, Dry BA 398 U with Cable Assembly, Special Purpose, Electrical CX 8808 G is required in place of the above batteries.

b. Preliminary Control Settings.

(1) Set the VOLUME control to 5 (fully clockwise).

(2) Set the function switch to OFF.

6. Procedure. *a. Information To Be Determined by Inspection and Operation.* Evaluate each item listed below and record the proper values on DA Form 2404 as described in paragraph 3*g*.

ITEM 1. MWO's.

Determine whether URGENT MWO's have been applied. Refer to DA Pam 310-7 for a listing of current MWO's applicable to the equipment.

Condition	URGENT MWO not applied.
Rating	**RED**

ITEM 2. Transmission and Reception. *a.* Set the BAND switch on the AN/PRC-25 under test to 30-52 (low band) and the MC and KC controls to a frequency in the low band.

b. Set the function switch to ON (without squelch) and communicate with the monitor radio station. Then, set the function switch to SQUELCH (with squelch) and communicate with the monitor radio station. Adjust the VOLUME control for a comfortable listening level.

c. Set the BAND switch to 53-75 (high band) and the MC and KC controls to a frequency in the high band, and repeat the procedures given in *b* above.

Condition	Two-way communication occurs both without squelch and with squelch in both positions of the BAND switch.	Two-way communication occurs; however, it occurs either without squelch or with squelch in one or both positions of the BAND switch.	Two-way communication does not occur.
Rating	**GREEN**	**AMBER**	**RED**

ITEM 3. Retransmission.

The following test is required when the evaluating organization is authorized Retransmission Cable Kit MK-456/GRC (TM 11-5820-398-12). Refer to paragraph 3*d* and *e* above.

a. Two monitor radio stations are required, and an MK-456/GRC. Also, another radio set, to which the AN/PRC-25 under test will be connected by the 50-foot cable assembly from the MK-456/GRC to set up a radio relay site, is required. The FM radio sets that may be used with the MK-456/GRC are as follows:

(1) Receiver-Transmitter, Radio RT-505/PRC-25 (part of Radio Sets AN/PRC-25, AN/VRC-53, and AN/GRC-125).
(2) Receiver-Transmitter, Radio RT-841/PRC-77 (part of Radio Sets AN/PRC-77, AN/VRC-64, and AN/GRC-160).
(3) Receiver-Transmitter, Radio RT-246/VRC (part of Radio Set AN/VRC-12).
(4) Receiver-Transmitter, Radio RT-524/VRC (part of Radio Sets AN/VRC-46, -47, -48, and -49).

b. Arrange with one monitor radio station to operate on one frequency and another monitor radio station to operate on another frequency. To prevent interference between the AN/PRC-25 under test and the other radio set at the radio relay site, the frequencies selected will be at least 3 MHz apart and should be based on the frequency interference chart given in TM 11-5820-398-12.

c. Use the cable assembly from the MK-456/GRC and interconnect the AN/PRC-25 under test with the other radio set at the relay site (*a* above). Set the two radio sets at the relay site apart by the full length of the MK-456/GRC cable assembly.

d. Establish communication between each radio set at the relay site and the associated distant monitor radio station. Advise the monitor radio stations to communicate with each other through the relay site, and request them to advise whether two-way communication is satisfactorily established.

e. Set the function switch of the AN/PRC-25 under test to RETRANS, and the control on the other radio set at the relay site for retransmission mode of operation.

Condition	Two-way communication between the distant monitor radio stations is satisfactory.	Two-way communication between the distant monitor radio stations is not esbtalished. *Note.* Under this situation, try changing the frequency of one of the relay site radio sets and the associated monitor radio station to make sure that communications failure is not because of frequency interference. Refer to paragraph 3*d* and *e*.
Rating	**GREEN**	**RED**

b. Rating for Radio Set AN/PRC-25. The color rating will be the lowest rating recorded above.

By Order of the Secretary of the Army:

W. C. WESTMORELAND,
General, United States Army,
Chief of Staff.

Official:

KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

Distribution:

To be distributed in accordance with DA Form 12 51, (qty rqr block No. 325) Operator Maintenance requirements for the AN PRC 25 radio set.

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